PART I – ADMINISTRATIVE

Section 1. General administrative information

Title of project	
Willamette Basin Mitigation Program Umbrella	
BPA project number	**20550**
Contract renewal date (mm/yyyy)	
Multiple actions? (indicate Yes or No)	
Business name of agency, institution or organization requesting funding	
Oregon Department of Fish and Wildlife	
Business acronym (if appropriate)	**ODFW**
Proposal contact person or principal investigator:	
Name	**ODFW**
Mailing address	**P.O. Box 59**
City, ST Zip	**Portland Or, 97204**
Phone	**541-872-5260**
Fax	
Email address	**odfw@state.or.us**
NPPC Program Measure Number(s) which this project addresses	
See individual project proposals	
FWS/NMFS Biological Opinion Number(s) which this project addresses	
See individual project proposals	
Other planning document references	
See individual project proposals	
Short description	
Umbrella proposal for Willamette Basin Mitigation Activitites	
Target species	
See individual project proposals	

Section 2. Sorting and evaluation

Subbasin
Willamette Lower and Columbia

Evaluation Process Sort

CBFWA caucus		CBFWA eval. process		ISRP project type	
X one or more caucus		If your project fits either of these processes, X one or both		X one or more categories	
X	Anadromous fish		Multi-year (milestone-based evaluation)	X	Watershed councils/model watersheds
X	Resident Fish		Watershed project eval.	X	Information dissemination
X	Wildlife			X	Operation & maintenance
				X	New construction
				X	Research & monitoring
				X	Implementation & mgmt
				X	Wildlife habitat acquisitions

Section 3. Relationships to other Bonneville projects

Umbrella / sub-proposal relationships. List umbrella project first.

Project #	Title
20550	Willamette Basin Mitigation Program Umbrella
8816000	Willamette Hatchery Oxygen Supplementation
9405300	Bull Trout Assessment-Willamette/McKenzie
9206800	Implement Willamette Basin Mitigation Program
9705906	Securing Wildlife Mitigation Sites in Oregon-McKenzie River Islands
9705907	Securing Wildlife Mitigation Sites in Oregon-E.E. Wilson WMA Additions

Other dependent or critically-related projects

Project #	Project title/description	Nature of relationship
	See individual project proposals	

Section 4. Objectives, tasks and schedules

Past accomplishments

Year	Accomplishment	Met biological objectives?
N/A	**See individual project proposals**	

Objectives and tasks

Obj 1,2,3	Objective	Task a,b,c	Task
N/A	**See individual project proposals**		

Objective schedules and costs

Obj #	Start date mm/yyyy	End date mm/yyyy	Measureable biological objective(s)	Milestone	FY2000 Cost %
N/A	**See individual project proposals**				
				Total	

Schedule constraints **See individual project proposals**
Completion date **See individual project proposals**

Section 5. Budget

FY99 project budget (BPA obligated):	N/A **See individual project proposals**

FY2000 budget by line item

Item	Note	% of total	FY2000 ($)
Personnel			
Fringe benefits			
Supplies, materials, non-expendable property			
Operations & maintenance			

Capital acquisitions or improvements (e.g. land, buildings, major equip.)			
NEPA costs			
Construction-related support			
PIT tags	# of tags:		
Travel			
Indirect costs			
Subcontractor			
Other			
TOTAL BPA REQUESTED BUDGET			N/A

Cost sharing

Organization	**Item or service provided**	**% total project cost (incl. BPA)**	Amount ($)
Total project cost (including BPA portion)			N/A

Outyear costs

	FY2001	**FY02**	**FY03**	**FY04**
Total budget				

Section 6. References

Watershed?	**Reference**
N/A	**See individual project proposals**

PART II – NARRATIVE

Section 7. Abstract

The Willamette basin is roughly rectangular in shape with a north-south dimension of

approximately 150 miles and an average width of 75 miles. It is bounded on the east by the Cascade Range, on the south by the Calapooya Mountains, and on the west by the Coast Range. The valley floor is nearly level to gently rolling, broken by several groups of hills and scattered buttes.

Climatic conditions in the Willamette basin include dry, moderately warm summers and wet, mild winters. The mean annual precipitation of 40 inches near the center of the valley floor and several times that along the crests of the Coast Range and Cascades. Precipitation tends to be of low intensity for extended periods of time. Measurable precipitation falls approximately 160 days a year.

In terms of discharge, the main stem Willamette River is the 10th largest river in the contiguous United States (Sedell and Froggatt 1984). The river receives the highest runoff per unit drainage area than any of the large rivers in the nation (Huff and Klingeman 1976). Average annual flow in the Willamette increases five-fold between the river's origin (5,600 cfs) and Willamette Falls at RM 27 (29,000 cfs) (WRRI 1979). Mean high flows exceed mean low flows five to seven-fold. Highest discharges generally occur in December or January while lowest discharges occur in July or August.

Section 8. Project description

a. Technical and/or scientific background

The Willamette River Basin contains approximately 16,000 miles of streams and rivers. Major tributaries of the Willamette River include the, Middle Fork Willamette, Coast Fork Willamette, North Fork of the Middle Fork Willamette, Clackamas, Tualatin, Yamhill, Molalla, Pudding, Lukimute, Santiam, Mary's, Calapooia, Long Tom, and McKenzie Rivers. The basin encompasses all or portions of eight Oregon Department of Fish and Wildlife big game management units. Interstate 5 traverses the center of the valley.

Wildlife habitat types vary within the Willamette River Subbasin. A variety of wildlife species, including large and small mammals, waterfowl, passerines, raptors, reptiles, and amphibians, are associated with riverine and adjacent riparian forest, wetland, island, mixed coniferous and deciduous forest, shrub-steppe, and agricultural habitats.

The development of the hydropower system in the Lower Columbia River Subregion has affected many species of wildlife within the subregion, including the Willamette River subbasin. Habitat lost to the construction of the hydroelectric facilities was home to many, interdependent species. Floodplain and riparian habitats important to wildlife were inundated when reservoirs were filled. Activities associated with hydroelectric development and operation, such as fluctuating water levels, have altered land and stream areas that affect wildlife. In some cases, caused by dam operations have created barren vegetation zones, which expose wildlife to increased predation. Other activities related to hydroelectric development (e.g., road construction, the draining and filling of wetlands) have altered land and streams areas in ways that affect wildlife. In some cases, the construction and maintenance of power transmission corridors altered vegetation, increased

access to and harassment of wildlife, and increased erosion and sedimentation in the Columbia River and its tributaries. Other impacts to wildlife and wildlife habitats in the Willamette River subbasin caused by hydropower construction and operation include irrigation, agricultural practices, livestock management practices, human development, forest management practices, noxious weeds, and the loss of prey base for certain wildlife species. Any of these influences can, and are, limiting factors to local wildlife populations. Changes in local populations can affect species integrity on a larger scale.

The Willamette Basin contains nine counties. Major cities in this area include Portland, Salem, Albany, Corvallis, Eugene, Springfield, and Cottage Grove. Over 2 million people live in the basin. Approximately ¾ of Oregon's entire population resides within the Willamette Valley.

Oregon law (ORS 496.610) directs The Oregon Department of State Police to enforce the wildlife laws. The Oregon State Police Fish and Wildlife Division completes this task. It has a current authorized strength of 122 officers. The Division consists of two sections and two units. These are the Commercial Fish Section, the Wildlife Section, the Aircraft Unit, and the Special Investigations Unit. The Willamette Basin is covered by two Oregon State Police Districts, District 1 (Stations: Portland & McMinnville) and District II (Stations: Salem, Albany, & Springfield). There are currently nine officers per District to provide fish and wildlife law enforcement protection to the basin.

With the inception of the "Oregon Plan" the Fish and Wildlife Division has assigned 13 officers statewide to healthy streams and salmon protection. The basin has 3 "Oregon Plan" officers assigned, 1 – Portland, 1 – Salem and 1 – Springfield. These officers are primarily responsible for environmental and habitat incidents/concerns requiring law enforcement presence or assistance. Examples of duties these officers perform are fill and removal investigations, dumping of hazardous waste, fish kill response, forest practices violations, littering investigations and other investigations in the realm of natural resources. The officers form partnerships with other local, state and federal agencies, private companies and local watershed councils. The officers are available to assist other agencies with investigations where their law enforcement presence or expertise is required.

The Fish and Wildlife Division overall is facing a bleak funding scenario due to several factors. These factors are loss of license and tag fees to ODFW, loss of federal funding and an unbudgeted cost of living wage increase. There is a possibility that the Division may have to hold 26 positions vacant for the 1999/2001 biennium. This could result in 8 positions held vacant in the basin. District I would be forced to hold 3 positions vacant and District II 5 positions. This would seriously hamper the ability to protect the basin's natural resources considering the current and projected increasing human population levels in the Willamette Valley.

b. Rationale and significance to Regional Programs

Please see individual project proposals

c. Relationships to other projects

Please see individual project proposals

d. Project history (for ongoing projects)

Please see individual project proposals

e. Proposal objectives

Fish

Key species

Spring chinook: ***Proposed as threatened under the federal ESA***. Wild fish have decreased from substantially more than 100,000 to only several thousand. Most wild populations have been extirpated and only the McKenzie population appears viable. Construction of USACE flood control reservoirs has blocked access to and from most historic spawning areas, altered downstream temperatures and changed hydrologic patterns. Development in the floodplain has reduced juvenile rearing habitat.

Winter steelhead: ***Proposed as threatened under the federal ESA***. Wild populations have decreased from substantially and may be 1/5 to 1/10 of their former abundance. Construction of USACE flood control reservoirs has blocked access to and from historic spawning areas, altered downstream temperatures and changed hydrologic patterns. Timber production has degraded juvenile rearing habitat. There has also been a coast-wide decline in steelhead populations over the last 10 years.

Bull trout: ***Listed as threatened under the federal ESA***. Bull trout have been extirpated from the Clackamas and Santiam systems and most likely Middle Fork Willamette. Flood control and hydroelectric projects have fragmented McKenzie bull trout. Construction of USACE flood control reservoirs, timber production and overfishing all likely contributed to the decline of bull trout in the Willamette subbasin

Oregon chub: ***Listed as endangered under the federal ESA***. Oregon chub were once common throughout the lower elevation portions of the Willamette Valley from Oregon City to Eugene. Introduced warmwater fish, flood control and erosion control projects have contributed to the decline. Most remaining chub sites are in the Middle Fork Willamette with a few scattered elsewhere in the valley.

Wildlife

Wildlife mitigation objectives for the Willamette River subbasin are based on the Northwest Power Planning Council's accepted wildlife losses measured in Habitat Units (HUs) for selected target/indicator species linked to priority habitats. (Note: all or part of the wildlife losses for Lower Columbia subregion may be mitigated for in the Willamette River, though it is unlikely that it would be proposed or could occur).

Lower Columbia Subregion HU Losses by Hydro Project	
Hydro ProjectHU Loss	
Bonneville	**12,317**
Cougar	**11,124**
Hills Creek	**19,489**
Lookout Point	**25,078**
Dexter	**6,648**
Detroit	**11,329**
Big Cliff	**413**
Green Peter	**16,432**
Foster	**3,544**
Total	**106,374**

Lower Columbia Subregion Wildlife Mitigation Priorities

Habitat Type	**Priority**
Riparian/Riverine	**High**
Old Growth Forest	**High**
Wetlands	**High**
Coniferous Forest	**Medium**

Target/Indicator Wildlife Species and Estimated Losses Due to Hydro Project Construction (losses are preceded by a "-" and gains by a "+"
Please refer to individual project proposals

Bonneville	
Lesser scaup	**+,2671**

Great blue heron	**-4300**
Canada goose	**-2443**
Spotted sandpiper	**-2767**
Yellow warbler	**-163**
Black-capped chickadee	**-1022**
Mink	**-1622**
Willamette Basin Projects	
Black-tailed deer	-17,254
Roosevelt elk	-15,295
Black bear	-4,814
Cougar	**-3,853**
Beaver	**-4,477**
River otter	**-2,408**
Mink	**-2,418**
Red fox	**-2,590**
Ruffed grouse	**-11,145**
California quail	**-2,986**
Ring-necked pheasant	**-1,986**
Band-tailed pigeon	**-3,487**
Western gray squirrel	**-1,354**
Harlequin duck	**-551**
Bonneville	
Lesser scaup	**+,2671**
Great blue heron	**-4300**
Canada goose	**-2443**
Spotted sandpiper	**-2767**
Yellow warbler	**-163**
Black-capped chickadee	**-1022**
Mink	**-1622**
Willamette Basin Projects	
Black-tailed deer	**-17,254**
Roosevelt elk	**-15,295**
Black bear	**-4,814**
Cougar	**-3,853**
Beaver	**-4,477**

River otter	**-2,408**
Mink	**-2,418**
Red fox	**-2,590**
Ruffed grouse	**-11,145**
California quail	**-2,986**
Ring-necked pheasant	**-1,986**
Band-tailed pigeon	**-3,487**
Western gray squirrel	**-1,354**
Harlequin duck	**-551**
Wood duck	**-1,947**
Spotted owl	**-5,711**
Pileated woodpecker	**-8,690**
American dipper	**-954**
Yellow warbler	**-2,355**
Common merganser	**+1,042**
Greater scaup	**+820**
Waterfowl	**+423**
Bald eagle	**+5,693**
Osprey	**+6,159**
	-1,947

Please see individual project areas

f. Methods

FishWildlife

The following strategies will achieve wildlife mitigation objectives within the Willamette River subbasin:

Identify potential protection and enhancement projects within the Willamette River subbasin through the GAP Analysis and coordinate implementation of activities through the Oregon Wildlife Coalition. Monitor and evaluate wildlife habitat and wildlife species response to implemented enhancement activities within the Willamette River subbasin. Law Enforcement

Law enforcement strategies for the Willamette subbasin are:

1. Participate in the Cooperative Enforcement Planning (CEP) process to identify subbasin fish and wildlife priorities

1. Direct enforcement activities towards established priorities

Protection of the basin's fish and wildlife resources is accomplished primarily through the Cooperative Enforcement Planning (CEP) with the Oregon Department of Fish and Wildlife (ODFW). The Division and ODFW have participated in CEP since 1989. This program is the means by which fish and wildlife enforcement protection directly compliments and supports fish and wildlife management. Local Division team members meet with the local ODFW biologists each January. The local officer team and the biologists arrive at a consensus on what the species/enforcement priorities will be for the upcoming year. As a result of CEP the field officer directs his/her enforcement activities on the priorities established. Priorities can change on a month to month basis. Examples of high CEP priorities for the Willamette Basin are: Anadromous Fish Protection (entire basin); Wild Trout (all species); Deer and Elk Protection; Dusky Canada Goose; General Waterfowl Protection; Bald Eagle Protection; General Habitat Protection; Social Concerns (Litter and Vandalism); and ODFW or citizen's violation reports.

ACTIONS:

Fish

Bull Trout Assessment (Project 9405300)

Willamette Hatchery Oxygen Supplementation (Project 8816000)

Inspection – Little Fall Creek (Project 8612400)

Wildlife

Burlington Bottoms (Project 9107800)

Willamette Basin Wildlife Mitigation (Project 9206800)

Willamette Basin Wildlife Mitigation (Project 9206801)

Securing Wildlife Mitigation Sites in Oregon (Project #9705900)

Fund project coordination activities to identify, plan, propose, and implement wildlife mitigation projects within the Willamette River subbasin

Prioritize potential mitigation projects within the Willamette River subbasin

Acquire or ease lands with priority habitats within the Willamette River subbasin

Enhance acquired or eased lands through alteration of land management practices, active restoration of habitats, control of noxious weeds, control of public access, etc. to provide benefits to target/indicator wildlife species within the Willamette River subbasin

Develop and implement a Monitoring and Evaluation Plan with both HEP based and non-HEP based monitoring criteria within the Willamette River subbasin

Securing Wildlife Mitigation Sites in Oregon – E.E. Wilson WMA Additions (Project #9705907)

Securing Wildlife Mitigation Sites in Oregon – McKenzie River Islands (Project #9705906)

Securing Wildlife Mitigation Sites in Oregon – Tualatin River NWR (Project #9705916)

Law Enforcement

Develop and implement action plans for fish and wildlife priorities and projects in the Willamette River subbasin

A direct product of Cooperative Enforcement Planning (CEP) is the development of Action Plans. Field troopers develop Action Plans to address specific high priority enforcement concerns (i.e. night or closed season hunters, snaggers, etc). The officer formulates a written plan on how to address the problem; when and how the plan will be implemented; and what manpower and equipment will be required. Action Plans can be developed on a very short notice to address a specific short-term concern. At the conclusion of the plan, the trooper critiques the enforcement effort. The following are some of the species that Action Plans have been directed towards in the Willamette Basin: Willamette River Spring Chinook Salmon, Winter Steelhead, McKenzie River Spring Chinook Salmon, McKenzie River Bull Trout, Wild Trout, Dusky Canada Geese, Bald Eagles, Deer/Elk Wildlife Enforcement Decoy projects and Wilderness Horse Patrols.

g. Facilities and equipment

Please see individual project proposals

h. Budget

Please see individual project proposals

Section 9. Key personnel

Please see individual project proposals

Section 10. Information/technology transfer

Please see individual project proposals

Congratulations!